DOCUMENT RESUME

ED 431 094 CE 078 747

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TITLE Factors Which Facilitate Workplace Learning: Confidence, Challenge and Support.
PUB DATE 1999-04-00
NOTE 33p.; Paper presented at the Annual Meeting of the American Educational Research Association (Montreal, Quebec, April 19-23, 1999).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academic Achievement; Adult Education; *Adult Learning; Allied Health Occupations; Business; *Education Work Relationship; Employer Employee Relationship; Engineering; Foreign Countries; *Learning Motivation; *Learning Processes; *Professional Development; Professional Occupations; Success; Work Environment
IDENTIFIERS *England

ABSTRACT

The midcareeer learning of 120 professionals in 12 contrasting business, engineering, and health care organizations was examined to identify factors facilitating workplace learning. Individuals were interviewed regarding their current work and ways they acquired the necessary know-how and knowledge for their jobs and improved or extended their performance. After 6-12 months, 88 (73%) of the same individuals were reinterviewed about factors affecting their further learning. Most of the learning reported was nonformal and unplanned, and it arose naturally from the demands of individuals' work. Learning was enhanced under circumstances in which they perceived a challenge that had to be met. Learning was also promoted by individuals (or their work teams) actively creating their own challenges. Learning from other people was the preferred mode of learning. Learning in response to challenge was affected by how individuals were supported in the microculture of their immediate work environment and especially by their immediate manager. Managers played two roles: giving direct support and facilitating a climate for learning in which people naturally help each other to learn, seek advice, and find resources to assist them. Mutual interaction of four elements--confidence, challenge, support, and workplace--benefited individuals and entire working groups alike. (Contains 16 references) (MN)

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ED 431 094

The American Educational Research Association Meeting.

Montreal. Canada. April 1999.

Factors Which Facilitate Workplace Learning : Confidence, Challenge and Support.

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The paper reports on findings from the project Development of Knowledge and Skills in Employment funded by "The Learning Society" programme of the Economic and Social Research Council.

Eraut M. Alderton J. Cole G. Senker P.1998
Research Report No.5. University of Sussex Institute Of Education, Brighton. England.

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Factors which facilitate workplace learning: confidence, challenge and support

1. Introduction

This paper reports on research into the mid career learning of professionals in business, engineering and health care. It focuses on those factors which affect learning in the workplace where people work in teams alongside colleagues. The full context and methods employed are described on our report (Eraut et al 1998 a).

We began with two basic assumptions; that learning occurs in employment throughout a persons working life and that people learn without necessarily being the recipients of training.

Our intention was to collect empirical evidence to identify what is being learnt at work, how learning is taking place and what factors affect the amount and direction of learning in the workplace.

In uncovering the what and the how, we gained a wealth of qualitative information about the context and conditions of work which enabled and enhanced learning from experience: challenge, confidence and support.

Briefly, we collected evidence from 120 people operating at professional, managerial or technician level in 12 contrasting organisations in the three sectors by conducting two interviews approximately six to twelve months apart.

Our initial interview did not start with direct questioning about learning because people learn a great deal without being aware of it and implicitly interpret questions about learning as about formal educational experiences which they then report both positively and negatively. Our approach was to find out what kind of work they were currently engaged in; the nature of the job, tasks, duties and problems and then to inquire how they had acquired the necessary know how and knowledge, or how they had improved and extended their performance. Respondents were encouraged to elaborate on what were reported as significant learning episodes and exemplify more general statements in the interviews lasting one to two hours. This strategy had yielded considerable success in earlier work (Eraut et al 1995).

Transcripts were sent to respondents prior to the second interview for confirmation and elaboration. We were only able to arrange and conduct 88 (73%) second interviews which clarified areas of nil reporting and factors affecting the amount of learning were further explored.

The data exhibited an emphasis towards examples which had had a positive influence on learning, respondents reflecting on factors that had influenced their learning over a considerable period of development. This may have been influenced by the questioning technique adopted by the team. Negative examples were forthcoming, arising particularly in relation to respondents making comparisons between current and past experiences of workplaces, managerial style and their personal orientation to learning. Where individuals were experiencing particular work pressures both the positive and the negative aspects of their situation were revealed more sharply.

The resulting wealth of empirical data was categorised according to a framework for analysis developed after studying the initial interviews, consultations with representatives of the participating organisations and the research team.
(Eraut et al 1998 a). This yielded a complex map of what is being learned, how it is being learned and the factors affecting learning.

One of our challenges was a practical problem in that one small piece of interview text could belong to more than one category, it was by no means exceptional for it to belong to three major categories as some of the examples below will testify. Despite clear conceptual categories, the real world reported by our respondents demonstrates the complex inter-relationships between what is being learned, how it is being learnt and the factors enhancing or inhibiting that process. Our framework enabled us to find connections between these variables.

Our approach to eliciting **what was being learned** yielded a much range of knowledge-types than is commonly found in specifications for education or training. Apart from technical knowledge, several types of skill were highlighted: technical skills, learning skills, interpersonal skills and thinking skills were all present in a multiplicity of sub-categories. Knowledge of resources and how to access them was identified as critical, especially human resources. Then more gradually and less overtly acquired was personal understanding of situations, work units, colleagues, one's organisation and also of oneself. Then finally, and least easily expressed, most respondents recognised their development of qualities and judgement through experience and observation of senior colleagues.

The majority of what was being learned was directly derived from the goals of the work. Although some work activity illuminated the need for additional knowledge or skills that could be provided through formal learning, the majority of the learning occurred informally, through observation, picking up information and knowhow, by being exposed to a range of different work situations, colleagues and occasionally through making mistakes - processes of osmosis and exposure. The development of understanding was also fostered through integration into the workplace group, absorbing through socialisation

more than direct explanation the purposes and goals of the organisation, expectations of themselves and others and how their work inter-related with others. New learning was approached through a combination of strategies involving interaction with others - consultation and collaboration within the working group, consultation outside the immediate workgroup and of course through formal courses and training events - supported to a varying extent by manuals, videos, publications, and online information.

The challenge of the work itself was critical to the process, including learning from mistakes, responding to self-set goals and challenges, novel problems and critical incidents arising within the work itself.

Thus our findings revealed that:

1. Most of the significant learning was **non formal, unplanned** and arose naturally from the demands of the work. Solving problems, improving quality or productivity, coping with change and from social interactions in the workplace with customers, clients and colleagues.

2. The learning could be made more potent under certain circumstances such as being "on call" meeting stringent deadlines, undertaking hazardous procedures or working with a new team, circumstances of change in personnel, in responsibility, in pace or in context. These circumstances, occurring naturally in the day to day work, could be conceived as posing a **challenge to the individual**, or team, to which they had to respond.

3. In addition to these naturally occurring challenges learning could be promoted by actively creating challenge. This could be **self initiated**, or in conjunction with **others in the team**, and particularly **the manager**. Changes to work role, level of responsibility or new situations required both working and learning in response to the challenge.

4. In responding to the challenges of the work people often identified the need for **additional knowledge or skills** to improve the quality of their work, to expand it's range or to take on new duties and responsibilities. This sometimes involved **formal training** (education) but always required **learning from experience** and **learning from other people**. Off the job learning still required work based learning in order to develop the capability to use the new knowledge in the work situation. The value of formal education was judged by our respondents against two criteria, the relevance to their everyday work and the contribution it could make to career development.

5. **Learning from other people** was the preferred mode of learning of our respondents irrespective of the participating organisation. This was

particularly emphasised in the health sector but also true in business, even where extensive material resources had been provided . Experienced colleagues, managers and learning through self reflection and experimentation were all cited. This is detailed in our earlier paper, Learning from other People at work (Eraut et al 1998 b).

6. The learning that occurred in response to challenge was affected by **how the individual was supported** in the micro culture of their immediate work environment and in particular by their immediate manager. This inter relationship between the individual, the environment and their learning is consistent with Bandura's (1977) social learning theory. The manager had two roles: giving direct support and facilitating a climate for learning in which people naturally help each other learn, seek advice and find resources (both material and people) to assist them.

The evidence presented in this paper will exemplify the nature of the challenge and support which impact upon the development of confidence and learning in the workplace. Personal confidence in learning is derived from a balance between the challenge of the work itself, and the support provided by access to other people within the workplace with a positive orientation to enabling individuals and to lifelong learning.

Offering support to an individual, particularly at critical junctures, leads to them developing confidence in their capabilities. Increasing confidence enables them to better manage more challenging work which, if successfully achieved, increases confidence further. A virtuous circle of positive development is established. A confident practitioner is better able to offer support to others in the workplace. The interactions between challenge, support and confidence are reciprocal, each reinforcing and being conditional upon the other.

The mutual interaction of these elements benefits not only the individual but the working group as a whole.

In order to articulate these interactions more clearly, this paper will focus on each factor in turn, whilst simultaneously discussing the nature of the links and inter-relationships between them.

2. Challenge

Learning from the work itself

The nature of the work undertaken by our respondents was generally non routine and therefore contained naturally occurring elements of challenge, problem solving, enhancing quality and productivity, being responsive to colleagues, customers and clients. For example in radiography, where a patient may have an existing disability which prevents the normal positioning of the patient for what would otherwise be a routine procedure or in cardiology where a technician describes a prudent decision to wait for advice.

> I hadn't done a baby before. I did have a try but
> I wasn't quite sure and, rather than give out a wrong
> diagnosis, I decided to wait. (and consult colleagues)
> It was quite frightening.

In banking and insurance dealing with difficult customers regularly posed this challenge. Achieving the goals of the work often required learning, normally accomplished by thinking, trying things out and talking to other people.

Irrespective of what was being learned, their own levels of skill, knowledge and capability, the circumstances which enhanced learning had similar characteristics; those posing a **challenge** to them as individuals or to their working group.

Three types of situation, arising from the nature of the work itself could be identified.

Changing context

When the circumstances of the work changed, further learning could be initiated. An increase in the speed or pace of the work, conducted in a new location, a new procedure to follow, new members of the working group were examples.

> you have to be a lot slicker, this new cardiologist has come
> and he expects the same standards and throughput

as at his teaching hospital. I think we have taken on the challenge quite well.. its a complex procedure... you have to concentrate on speed. (radiographer)

theatres was challenging, I hadn't much experience and the machine was awful... there are so many different areas, the technical bit the machinery lets you down, the exposure, the patients, sometimes its difficult to get everything right. (radiographer)

I like the Accident and Emergency element because you have to adapt your technique depending on injuries. (radiographer)

Other examples included where the technology had changed, a new responsibility was involved such as taking the lead, doing it alone or demonstrating or teaching someone's else.

you are actually doing something and you are thinking your way through because the job has got so much more varied (as a result of technology). (cardiac technician)

I don't think you ever approach your first " on call " feeling totally confident, it's a bit of a panicky situation because you are on your own and you don't know how it is going to turn out. (radiographer)

when you've been doing it a while, it is automatic. That's what makes you think, when you are teaching. It's tiring because it does make you think when you are doing the job; and you've got to talk about it. (nursing assistant)

These were situations where everyday knowledge, routinely applied, was no longer sufficient. Considerable thought and effort was required, both in thinking and containing the emotions whilst at the same time doing the work. Working and learning and learning and working could not be easily separated, one was embedded within the other. Change appeared to stimulate learning.

New tasks and new roles

Undertaking new activities and responsibilities provided challenge.

I haven't been groomed to be a lending manager.. I came through the traditional route .... learning all the technicalities ... you used to go on a residential course

then you went into the branch and did it. (junior banker)

It's strange, but suddenly you feel a lot more responsible, even though you know you are the same person and the people you work with are very experienced. I thought if I can cope for a couple of weeks on my own I will cope. Everyone was very supportive but sometimes you have to wing it and hope you are doing the right thing. You are learning as you go along, there are things you have never done before but there is a lot of people to call on for help. (nurse on acting up for manager)

a lot of quotes are "one offs", you might get a quote once a year, you might have to look back through the files for a year and a half to see the last one, I'll go and have a look and see if anything looks similar. If it doesn't then I use some sort of judgement about what to do. (junior professional in insurance)

Undertaking new activities and roles involved both reactive and deliberative learning, prior to, during and subsequent to the work activity or consultation. The affective dimension is demonstrated here too.

one day I had to work on my own and it's quite surprising how when you haven't got somebody to bounce ideas off it does make a difference (negatively) (professional in insurance)

Heightened awareness

Where previous cases have led to a poor or unsuccessful outcome there is additional challenge with strong affective components both for the individuals themselves and potentially for others.

I had one situation, where the bank lost about a million quid which was all my fault. I started it, I saw it through, I lost the money .. and those things without a shadow of a doubt hit you hard..... well I don't want to see that happen to me again, and you do learn form experience, it becomes part of your background. (senior professional banker)

we do a lot of two year olds for kidney studies.. they take a long time to do ; they've got to keep still a lot and that can be difficult for all concerned. You're not

> often completely defeated but I have been once or twice. It's very frustrating for everyone, its a waste of radiation. It's very frustrating you haven't got a result, information, you haven't got a diagnosis, it's all a waste, I suppose it's just experience. (senior radiographer)

Learning from experience, particularly negative experience is the main mode of learning exemplified here.

The creation of challenge

In addition to these unexpected challenges occurring randomly and naturally in the work challenge can also be consciously created or sought out, by the organisation, a manager or the individual.

The organisation may have standard procedures and work assignment processes that encourage and enable challenge such as management development programmes, apprenticeship schemes, induction programmes and work rotation systems.

> the way it works with trainees is... we get put into a department for a year or so, just so that by the time we're qualified we'll have a fairly good overview of what is going on. (actuarial trainee insurance)

The challenge may also be provided by an organisational policy change or problem, for example by increasing emphasis on quality, cost savings and productivity, the need to respond to externally imposed conditions or market forces, or a reduction in staffing levels. Conditions such as these were features of all our organisations, many were undergoing significant change during the period of the research.

The ability of the workplace to provide Challenge also may be **inhibited;** three factors were identified by our respondents.

Demarcation policies related to safety, finance or specific occupational boundaries drawn by professions or Union agreements. For example activities related to Health and Safety procedures could only be undertaken by those with very specific training. Nursing assistants were unable to assist in the giving out of medication to patients even though they undertook equally or more demanding tasks in other aspects of their work.

Deskilling of staff was particularly evident in the business sector where discretion had been significantly reduced by the increasing use of computerised systems.

> When I came to this branch in 1988 my powers of agreement were.... three feet wide now they are down to about six inches. (senior bank manager)

Deskilling also resulted from lack of opportunity to practice and use skills acquired on a regular basis.

This contrasted sharply to the health care sector where increasing skills was significant in all areas and was assisted by the improving technology. Radiographers were undertaking procedures alone formerly only conducted by medical staff, for example barium studies and a diagnostic role in reporting on X rays in emergency departments.

> with the new equipment I am having to relearn it because the images are better, there is more to see more to query... because the radiologists are doing different techniques there are new things being developed and you ask why this, what are the advantages, we are doing a lot more too. (senior radiographer)

Nurses were taking on increasingly delegated medical roles and were extending their own independent practice, such as pre-surgery assessment of patients and the consequent ordering of investigations, delegating more routine patient related tasks to nursing assistants. Cardiac technicians were increasingly conducting their own clinics where formerly medical attendance was required.
The introduction of new technology, particularly computerised systems and the need for efficiency improvements provided both the opportunity to create new challenges and posed significant threat by removing pre-existing challenges, at least in the short term.

The manager can create challenge in the pattern of work allocation, the assignment of responsibilities, and by making changes to the working group.

> She makes sure we do get to see everything that goes on, she likes us to see different things when we are out on the wards. She makes sure we learn even if we do it in sittings, where someone is manning the phone in the department and the others are out on the wards (junior cardiac technician)

> I talked to the manager about it, and he sort of agrees that I would be able to have secondment and shadowing to other departments. I think I wrote four or five down, one I've already been to; marketing

would hopefully be a 4 week secondment, whereas others would be a week, a couple of days, just shadowing to give the general picture.... there is a difference between being supportive and actually doing it... obviously the longer you are there the more valuable perhaps you become, you get really involved in the project, and they can't afford (to be without you) (graduate engineering trainee)

It is not always easy for managers to balance the needs of the organisation with the needs of individuals:

> What we should be doing and what we haven't done in the past is push those skills throughout the team take aside three or four people who can do that, lets develop those people, push those skills through the organisation.... (manager in a utility company)

> the other thing that frustrates me
> is that the person will become so expert that when they want to move on, the manager says "I can't lose them" "I don't want them to go, it is six months before I can lose them." That individual is stopped from all the potential benefits they could bring to the company and themselves by moving on and developing and imparting their knowledge elsewhere.... (insurance manager)

The manager may also be the gatekeeper to formal education, in-house or externally provided. The manager's role is to ensure that relevance to need has been properly assessed and discussed and that the challenge provided by formal education is appropriate at this particular time in the individual's development and work role. There was some evidence from our respondents that formal education did not always provide what was required or was not able to be utilised immediately in the workplace and hence its value was regarded as questionable. There was a danger identified by respondents that too much emphasis was given to in-housecourses with a lack of regard to the learning challenges offered by the workplace. The role of the manager is discussed more extensively in our earlier paper The Impact of the Manager on Learning in the Workplace. (Eraut et al 1999).

The individual may seek out challenge in their work, in either a planned or opportunistic way. For example a nursing assistant always offered to move to a different ward if there was a shortage of staff, thus expanding her experience of different patients' conditions, working practices and management styles. A cardiac technician negotiated a weekly visit to a larger centre with her employer giving the following rationale

> I don't have any technical support which is why
> I insisted....there are 20 technicians there so
> I take my pick for support, it keeps you on the front line
> keeps you up to date with things you wouldn't
> get here, keeps you in touch, you get more
> technically challenging cases.... so it keeps your
> skills up. (cardiac technician in charge of a
> department in a local general hospital)

As did this trainee, although a more informal arrangement resulted:

> as long as I do all the work allocated to me
> in the department, then the rest of the time..
> if I suggest to my boss I'd rather be doing that than this
> because it is going to be better for my development,
> then my boss is always happy to go along with that;
> so long as I can back it up with reasoning (actuarial trainee)

Several people sought promotion, were willing to try out new procedures, and keen to participate in new ventures. Indeed some were so proactive and keen to engage in challenges that we called them "learning entrepreneurs". They were vigorous not only in seeking out challenge but in developing networks of others who could assist them or who might be useful to them in the future. They took opportunities to discover and develop skills, expertise and cultivate experts. A service engineer went to great lengths to be present whenever anything new was installed, technical representatives from companies were interrogated on a regular basis both face to face and over the telephone.

Nature of Challenge

Over time that which is initially conceived as a challenge becomes routine, but new challenges emerge or are sought. Indeed the aspects of one's work that provide a challenge are often related to one's stage of development and practice. Miller et al (1998) provide evidence of this in relation to nurses, who as they progress through the hierarchy focus on different elements of their work and gradually develop their working relationships from mono- to multi-disciplinary teams. Our respondents also provided evidence that the most junior members and those lacking in experience described their work almost exclusively in terms of tasks and activities to be undertaken often listing them.

> You need to be able to talk exceptionally well and
> sound knowledgeable.... have a good telephone manner
> ... you need to be able to listen, do a certain amount of
> I.T. skills and you've got to know what the competitors

> are up to .... (newcomer account manager (sales) energy supply company)

Some although experienced never discussed their work in any other terms but as a series of tasks. This was particularly true of nursing assistants whose work is very constrained by rules and regulations.

> we come in, in the morning and after report we get the trolleys ready, go round the beds, get fresh linen, thermometers, wipes, mouthwash, all the usual things, make some beds, do breakfasts, get one washing feed patients. We go round doing bed baths or washes, observations, take people to x ray.....
> (nursing assistant with more than 20 years experience)

Initial challenge is provided in the mastery of essential skills but as progression occurs it is the recognition of additional dimensions of the work and the interpersonal aspects that pertain in the wider context of the whole. One engineer described his frustrations in being unable to get colleagues to recognise the importance of customer views and comments when designing new products, their main focus being on efficiency.

For the majority of our respondents, there was evident progression and the development of expertise but this was in relation to particular aspects of the work, not the work performance as a whole as is suggested by the descriptions of novice and the stages to expert described in Benner's (1984) work. As shown by the engineer above there was always a new dimension to be incorporated. Others, in all sectors reported their feelings of being a novice in regard to some dimension of the work, whether in acquiring a more strategic view, a more customer orientated focus or more managerial roles. The challenge may have been self sought or imposed by local policy or business and market considerations. For example in the energy sector the change from government ownership to public company had required a significant amount of learning in relation to the new status. Also, the implementation of an organisational policy of staff appraisal required managers in engineering to review their knowledge and skills.

Formal learning situations also create challenge; by developing the skills of the individual enabling them to undertake new work ; by exposing them to propositional knowledge, theories and ideas which encourage them to look at their work in a new way; and by being exposed to others in the learning group.

A further challenge was created by the problem of applying formal learning to the experience in the workplace. A cardiac technician argues that learning in a formal setting using simulations is not the same as experienced in the real

world: further learning is required in the workplace to develop competence and confidence.

> I've been on several courses to teach me how to do something and when I've gone out, it has been totally different. You just can't survive by doing (it the course way) that's my personal experience. (cardiac technician)

> what they show you on the course doesn't look like what you see in real life so you're learning all the time, you are learning mainly because you see new things all the time. (cardiac technician)

A central finding of Eraut et al's (1995) study of nursing and midwifery education was that learning in education and practice settings could not be easily linked by most students without additional supportive challenge in the work setting.

Learning materials, videos, books, computer programmes were rarely cited by our respondents as creating challenge, but the application of the new information and knowledge in the workplace setting was regularly reported as challenging.

> you can read it again and again until it comes out of your ears but if you are doing it again and again (cardiac technician)

The amount of challenge

The demand level of the challenge is critical for learning. Too little challenge and little new learning occurs;

> I wouldn't say it has become boring but I've been doing it a while and it hasn't changed a lot in our department, I'm not so interested in it. (radiographer)

and more importantly, too much challenge impeded learning and inhibited the attainment of learning goals.

> When I came here to this position I had no experience of who the team were, how they worked, what the systems were. I had done some reading up but it was just a sea of information. I could not possibly comprehend it all at once. I had no proper induction, it was just a quagmire, there was no other way to describe it but awful. The afternoon

> I started they closed an adjacent ward, we had six transfers across, four discharges and one death. I wasn't offered any help. I am a resilient person as long as I know I have people co-operation but when you are swimming against the tide you begin to crumble. I was aware there were problems here but not the extent of it. The manager said it is a tough post but nobody actually spoke to me or offered support. I have written reams to the manager.

A very experienced and well qualified nurse took on the management of a ward and team unknown to her. She was aware there were significant problems but was attracted by the challenges this held, even taking a reduction in pay, in anticipation of developing her experience. The overwhelming nature of the challenge she was confronted with not only inhibited learning but created a dysfunctional performance as well. She resigned shortly after this interview.

3. Support

For the outcomes of "challenge" to be successful, both in terms of learning and in terms of changes in practice, support was essential. The nature of the support required varied with the different circumstances of the work and the individual. Many of combinations of personal support, managerial support and organisational support were identified in our research.

Personal support

Support provided by family, friends and professional colleagues outside the workplace gave the opportunity to share emotionally demanding experiences: this also facilitated learning.

> My friends say I talk a lot which I think helps. I think sometimes I don't understand something and you are there explaining it to a friend and suddenly it becomes apparent, I start explaining it and suddenly half way through I'll wander off. I get quite passionate about it... I enjoy my work most of the time. (nurse)

Recognition was also given to the support provided by families in enabling educational opportunities to be taken up. Financial support, creating time and psycho social support were particularly important, especially in health where continuing professional development (CPD) is increasingly mandatory. Hewison et al (1998) provide considerable evidence of the toll this takes of nursing staff and the need for support for both individuals and families.

Our respondents reported family activities being being disrupted, put on hold

and considerable time being expended in talking through and listening to problems and dilemmas, occasionally even sharing the teaching and learning

> I also learnt from people like my husband who has been in management for years, totally different environment but I think it is the same whatever company you work in. (cardiac technician manager)

Personal support was also provided by those elsewhere within the organisation. This nearly always took place informally, over lunch or in a bar, using the networks created by people who used to work together, or met on an inhouse training course or just shared a common interest. Many gave examples of consulting former managers and mentors by telephone.

Organisational support

Organisational support had two characteristics: **Organised learning support** and **Consultation and Collaboration**. These were demonstrated both in formal and informal ways.

	Organised learning support	**Consultationand Collaboration**
Formal	Induction procedures Mentorship Appraisal systems Apprenticeship and trainee schemes Coaching and Tuition Access to educational resources Career structures and reward systems Job and role specification	Work Audits Formal reviews Special assignments
Informal	Job rotation Visits Networking Work shadowing Project work On Call opportunities Clear work specification	On going mutual consultation Observing others Collaborative teamwork Blame free culture Identified support for new tasks or roles

Formal support offered by the organisation was exemplified in its policies and procedures . Informal support was associated with a positive workplace culture. Thus the creation and fostering of a climate of learning with informal

consultation and interactive working processes was perceived as very supportive

> .. immediate colleagues are very helpful, we all realise there is nothing worse than being on your own in a difficult situation. The Bank has always encouraged managers to talk to each other both on an informal and formal basis.

The most supportive workplaces were characterised as "blame free" with an emphasis on high quality work. One nurse described this as feeling psychologically safe enough to say "I really screwed up".
Tolerance of mistakes was particularly important, as an engineer reported

> I don't really learn by being taught, I learn by cocking things up.....what I basically did was to bring all the things I know had gone wrong (together)

Obviously in health care this is not a preferred option.

Many respondents did not immediately identify this as support, or contributing to their learning except when they were able to reflect back or compare with other workplace situations where this was not the prevailing culture.

> in the engineering environment... you could always go to people and they are willing to help but you have to go and find help ... whereas when I moved into software everyone was coming up offering advice, checking if I was OK.. Not only the supervisor but the whole team were very good....

The support was embedded in the working processes and was often invisible but was characterised by regularly offering positive comment, encouragement on the work ongoing, demonstrating, identifying and creating learning opportunities by taking someone to observe or participate in an activity new to them. Experienced colleagues, supervisors, mentors or coaches took on these roles whether officially recognised or not.

> Normally he's the guy whose chairing the meetings and I'm sitting in but now he's there for only 20 % of the time, looking in and I'm chairing the weekly meeting and inviting him along.
> (engineer being gradually eased into a leadership role)

Supportive challenge was provided through questioning, working together and operating in a climate of equality rather than by role specification or hierarchy.

Seeking guidance, asking for feedback and giving advice were all part of the normal routine of the workplace which became self sustaining.

> if you take a film somebody will look at it and, because it is so relaxed, you don't take it personally that it is not as good as it could have been..... because they quite happily say when something is good, you don't mind when it is not so good. (radiographer)

Benner (1995), in her work on American nurses working in areas with critically ill patients, describes this as the "community of practitioners working together to sustain attentive practice."

The relaxed culture encouraged the pooling of experiences through narratives, stories and the discussion of critical incidents as it was in the examples of personal support. The sharing and debriefing was also an element of the most positively evaluated formal learning with time spent in the pub being identified as important.

Workplace cultures identified as offering support had the following features which were expressed in both formal and informal ways.

Support for newcomers
Recognition of the contribution made and significant achievement
Avoidance of blame
Recognition of the emotional impact of the work
Clear distribution of responsibilities
Clear direction in work goals

These were significantly influenced by the organisation, the social climate and importantly the immediate manager.

> A wonderful manager, he was very good at making people feel important in their niche, in encouraging them, giving them that small amount of contact to keep them going. He actually comes round and says "how are things going" and he keeps tabs on all the projects which I thought was wonderful. (engineer)

A wide range of different management styles were clearly in operation but the important factor was that they were all experienced as supportive and stimulating by those working with them.

> The manager I worked for during that period was a very demanding person. He was one of those people who expect a lot of you but he made it clear exactly

what they expected. If you did something wrong he got you in and told you off for doing it wrong. You did something right and he praised you for doing it right.

Although he could be critical of you ..... he would always give you total support. (banker)

He's innovative and wants to drive things forward he's very autocratic in many ways but he also expects a high level of independence in his staff. He'll say just go ahead and do it... but I do feel incredibly supported If you go to him and say "look I don't quite understand why we are doing it this way?", he will listen; and if he thinks it reasonable he'll agree, so he is fairly open minded. (radiographer)

The team I am in is absolutely fantastic. They've worked brilliantly. Everybody does everything including James who's my manager. It's like when it's contract round, everybody gets busy, they work hard and they play hard. It's as simple as that. Everyone mucks in. It's just a good working environment - you enjoy coming to work and you know if you've worked 11 hours one day you're not expected in at 8.30 am the following day.

These provide an interesting mixture of challenge, participation and support. In addition to influencing the immediate workplace culture the manager also had a role in providing individual support, formally through supervision, performance management, appraisal and in the ongoing work.

Support by managers

Managers, experienced as supportive, exhibited particular characteristics, modes of interacting and behaviours.

I don't think I appreciated how good a boss he was..... he's not breathing over your shoulder, if I want him I will go to him and if he wants me to do something he will come to me. He's not trying to influence me, he advises me, he never says "you are going to do it this way", he says "have you thought about this" (aspect). He's good at standing back and supporting you and pushing you forward as well. He's good at raising your profile and insists you are there to discuss it, even if you

> don't want to present it, for example to the Board. He will insist you are sat there so you are seen to be the one with the knowledge
> (nurse developing a more strategic role)

An almost identical description of a manager in the energy supply industry identified the same characteristics and way of working.

> I just go in and talk to him about it, he won't say "do this or that" he'll say "Have you considered this? Have you tried that ? He will put ideas into my head and make me think about it, rather than giving me the solution which I think is good . And then if I'm stuck I'll go back and see him again. Cause at the end of the day that's what he is there for, he's my boss and he's there to help me if I've got a problem.
> (team leader)

Supportive managers were aware and able to deal effectively with the affective dimensions of the job, both in anticipating, preparing individuals and offering some protection. Advising, offering supportive challenge and enabling the person to sort out their own priorities and concerns by asking the relevant questions were valued by respondents. Not being judged on performance but being encouraged to think about how performance could be enhanced was experienced as supportive.

Questions such as "have you thought about" were enabling, extending the range of options for actions, eliciting prior knowledge, bringing it to the fore and encouraging reflection, which all developed the confidence that it would be better handled the next time.

Giving affective support

The affective and emotional dimensions of the workplace were recognised by supportive managers, particularly when precipitated by challenging experiences. They offered support by being available, by listening and by offering comfort where necessary. A radiographer reported that his manager changed his arrangements to be available when he did his first "on call". The language respondents used to describe some of their challenging situations demonstrates the significant emotional dimension of learning at work.

> I was trying to keep busy, trying to learn what I was supposed to be doing but when the ward started to use it (new computer system) once the **initial gunfire** had died down, I started to learn.

(The manager) has this really nice way of getting you to do it, regardless of the whole place being **on fire**, without you feeling dreadful about it. Because you know you have got to do it, but you've had 50 million other things to do or you might have completely forgotten about it.

He's given me an area to work in, but he's also kept me sheltered from the **ravages of the customers**..... He's involved in the actual dates and timescales of when we have got to deliver the project and I'm involved in getting to that point, and in the day to day running of the team..... (manager in business)

The manner in which support was offered was also important

I've noticed with Diana she'll never say "that's not what I want" or " why haven't you got this back to me in this amount of time" She's always so **pleasant** about it, not sort of excusing you or anything, but just the way she puts it you know she appreciates what has gone on.
(Nurse developing in a managerial role)

even when it only required a listening ear.

I got very disheartened at one stage because there was almost nothing you could do to please people (clients) You bend over backwards and it would still be wrong and you would do everything to the letter.
Mr Jones would just say "well this is part and parcel of the job, you just have to answer their complaints as best you can. You just have to accept you are in the public service and there are always people who won't be satisfied". That was the thing I found hard to handle, I felt like the whole team was being run down, questioned about their abilities when they are a good hard working team.
(nurse ward manager)

Not all support was sympathetic, it could be challenging as long as it was perceived as supportive by the recipient.

.....my manager said to me, it was in an appraisal, " Right, what are you going to do with the rest of your life? You've got a career. Like it or not you are a career nurse, you've been in it long enough.

(enrolled nurse who then went on to night school and professional courses to upgrade her qualifications)

.... I was having, oh gosh what do you call them a chat with the ward manager who assesses what you have been doing over the last year, and she said " well, what **are** you going to do. Are you going to go through your whole life saying "No I can't... go on, go for this". And I said "Yeah" and that was it. (nursing assistant who subsequently undertook a course in complementary therapies despite her fear of exams)

Support was normally offered informally but appraisal procedures created opportunities for formal support. A balanced, if challenging view, was highly regarded by this engineer.

My current manager I think has been very fair. He's given a very good synopsis of where I'm at and I think it will help, definitely, I mean it focuses on strengths and weaknesses, which I think is important because, on the one hand your told what you are good at, but on the other you are told what you can do better, what you can develop, improve on.

Positive experience of being supported led to learning as displayed by this senior middle manager in banking

I think if you are managing change you need to do it sympathetically, and understand the staff reaction. If you have a business objective you have to get there and sometimes people are not going to be wildly enthusiastic about where they will end up..... if you understand their situation and feelings, and sympathise with them you get a far better response from them.

In many organisations formal appraisal systems were established but seen as not operating effectively. People moving between departments missed out, work pressures reduced the priority given to appraisal, and some managers were not very good at doing it. It is difficult to conduct a good appraisal if there has been little ongoing support and feedback; and that is what appraisal training often neglects. The learning for managers is in identifying what is required in circumstances, and what their level of involvement should be.

Managers as experts

Supportive managers were recognised and highly regarded for their expertise and their mentees had confidence in their abilities.

The ability to give practical support in addition to affective considerations was highly valued.

> because she is calm and efficient and makes it look so easy just not hard at all, then it just sort of spreads and people are generally more confident and they know that she is such a confident manager that everything just seems to go like clockwork. (Nurse)

> If I was given a task by him it was clearly specified..he would produce examples to show how to present a document, one also saw Jack in operation.... there was modelling both on him as a person and on examples of his products (service engineer)

> My immediate manager was a very dynamic person, a driving force. I learnt a lot of design for cost from him. He was very good at quantifying how to do that and I learnt a lot. (development engineer)

In clinical situations the requirement for the manager to be expert occasionally required the respondent to be rescued during a particularly hazardous or challenging procedure to provide a safe outcome for the patient.

> I can scan someone but if the patients are difficult I struggle, then George comes in and gets a picture straight away. You spend 20 minutes to get a picture and he gets one straight away. It's soul destroying but then the next chap comes in and you get a beautiful picture. It's just practice but when he's (George) is doing it, you can see what he is doing. (Cardiac technician)

and in business, in difficult situations to trouble shoot.

> Well, he (boss) is vital. On a day to day basis I don't need to involve Mike at all. It's when issues arise that I can't deal with myself, he's absolutely vital because he needs to understand what the issues are, what problems are causing it, and he needs to mobilise all his forces to do something about it.

> And usually the forum for that is a frank discussion
> at our directors management meeting.
> (Team leader- insurance)

Supporting learning through managing the workload

Support also included the organisation of workload to create opportunities for development. Exposure to situations before taking full responsibility was valued. This both reduced the emotional load and gave opportunities for role modelling, seeing the expert in action, as exemplified earlier.

Creating opportunities for working alongside each other was a helpful strategy, particularly in health settings enabling both learning from observation and providing feedback on performance. Supporting novices whilst they had a go involved some risk taking for both managers and workers, as exemplified earlier.

Balancing the level of challenge in the work with appropriate support networks was important. Managing the workload included pacing the exposure to challenges, being available at critical times and providing information prior to exposing staff to new situations.

> I had this disciplinary thing... I did find it difficult at the
> time but it is one of those things I have learnt from.
> She (manager) came in and talked to me about that
> one, what would happen, what to do, take notes, think
> about it afterwards and then she came round and debriefed
> ,we went through it and it wasn't too bad. Eventually she
> said if you were next grade up we would expect you
> to present cases, but because of how it happened
> and I haven't got much experience, she came and spoke
> to me and told me what to expect. I found it quite difficult
> and I was upset afterwards but she put it into perspective.
> I think I had already done that for myself but it was a
> stressful time really. I thought I've got to get used to it
> because it 's not going to be the last, eventually I've got to
> get used to that level of formality and procedure.
> (Nurse)

This example demonstrates all the characteristics of a supportive manager :

offering time, preparation and information
dealing with the affective elements,
enabling learning from experience through debriefing
and a focus on future work.

Temporality was important, positive support for critical incidents encompassed reviewing past experience or learning, dealing with the current situations and a focus on future applications.

The support could be focused towards explicit tasks and activities or more generally applicable to everyday experience.

> If anything new is going to happen, then we get together. Sister will see as many of us as she can at any one time, and talk to us about it and then a joint decision will be made. Or, if something is done above our heads then we all have to discuss it afterwards, you know, and we try and alter it if it's not right. But we do get consulted, sister is very good at consulting us over the various changes that are going to happen. I wish the upper management were as good. (Nursing assistant)

> Quite frequently we would get together all the E grades, and Anne and Jackie, and discuss some of the other issues that were going in the ward at the time. So I think that Anne's the type of manager who likes staff to be involved with decisions, so I think that we're always aware of things that are going on even if we're not directly involved in having to make those decisions... Even though we're all part of a team, we each take on a certain amount of responsibility. (Nurse)

The participative nature of this management demonstrates both support for learning and the creation of a positive culture.

The majority of respondents learnt through positive examples but occasionally some negative role models had positive, if unintended outcomes.

> they got this manager who proceeded to wreck everything that had been built up and everyone just lost interest in the department.... so I decided when this job came up I would like to be my own boss and I think I was right. (cardiac technician)

> I learnt an awful lot from him.... I still think some of the things he does are completely wrong... he feels the way to get things done is to shout at people.... I disagree with that method.... so that's one thing I've learnt not to learn from him..... he's always taught me

> that you can never presume something... always know for definite (PR manager in a public utility)

Positive examples of managerial support seemed to combine both personality and expertise. Whether, sympathetic or challenging, positive or negative, people learned.

Lack of support

Lack of support by the manager was experienced as demotivating and could result in lack of commitment to work goals.

> I would not do it again because I had to do everything on my own. I didn't get any help... I suppose if I was to do any research again I would do it in a team. You do need some encouragement. There are things that need doing in the department that other people are employed to do... they are probably quite alone as well. The workload is increasing, people are just whacked at the end of the day, there is a lot to keep up with, it's not being given time, it's just the incentive isn't there.
> (experienced senior radiographer)

Support in formal education

The provision of personal support for learning was not only in the workplace itself but was also identified as a significant feature of formal learning situations.
In our evidence those formal learning situations that had group activities were favoured.

> I like old style banking courses where you went away for a week.... with those you can build up relationships. Now we are onto this more modular approach, to me it's all over before you have started. .... you never really get a chance to build up any relationships with fellow students.
> (middle manager - banking)

Support in formal learning situations was not only provided by peers but by course tutors as well. It occurred both as a formal process in the content, structure and design of the course work and as an informal process in group support activities, phone calls and visits. This relationship between formal

learning and workplace practice appears to be mediated and made relevant through interpersonal contact.

This recognition of the emotional or affective dimensions of learning and working and the importance of appropriate support challenges the established technical rationality model of professional practice. Indeed our findings on the interpersonal and group dimensions of affect and learning contrast with the more recent wholly individualised literature on learning of health care professionals. They accord with the work of Benner (1984) and Smith.(1992) and also reinforce neglected nursing literature on the significance of the environment of learning. (Orton 1981, Ogier 1982, 1989 and Fretwell 1982,1985).

Interactions between individuals and their environment were also discussed by Bandura (1977), whose social learning theory seeks to explain human behaviour in terms of "continuous reciprocal interaction between cognitive, behavioural and environmental determinants". However, Bandura defines behaviour as "self directed goal setting activity", whereas we found that learning goals were rarely pre-specified but more likely to emerge as a consequence of the work situation unfolding (Eraut et al, this Symposium). Moreover, goals are developed in a social context where other workers also have an influence.

Our work would also suggest that the affective element is stronger than Bandura implies in his early works. Because it is often the affective elements which turn a situation into a challenge; the level of personal involvement, the sense of self and the emotions aroused in addition to the cognitive capabilities that enable learning. Indeed Benner (1997) argues that it is "involvement" that separates those who become expert from those who remain only competent practitioners.

Bandura's (1995) more recent work focuses on self-efficacy and gives greater attention to the affective domain. But before discussing the concept of self-efficacy any further. I wish to consider our own evidence on the third factor to be included in our title: confidence

4. Confidence

Confidence was frequently cited by our respondents as both a major outcome of a significant learning experience and an essential determinant of good performance at work. It derived from the achievement of a good result or the solution to a problem, sometimes from the recognition that others were as fallible as themselves and sometimes from just surviving.

> No, when I think when I listen to myself, I am steadier my tone is easier and I ask them if they want to ask anything at all. I'm not trying to rush outside the door.

> I'm learning how you should manage well and how people at this (board) level should be reacting to things and I see they are not. I'm not afraid of them because I know they make mistakes as well, it's strange, it's that realisation that the king hasn't actually got any clothes on... the king's new clothes and he is naked... and we can all see he is naked... he makes mistakes as well. (Nurse operating at strategic level)

> From working within the group you actually get to do a case and you think " Oh crickey !" but at least it gives you confidence if you manage to do it. (radiographer on undertaking a new technique)

Normally confidence was fairly specific relating to the ability to carry out a task or successfully perform a role. Its development required considerable prior knowledge and skill, together with sufficient relevant experience, i.e. to have met and dealt with the situation before whether successfully or unsuccessfully.

> Now because they put you in groups .... I feel a lot more confident.....I always felt that I wasn't quite capable of doing something... but the course has given me a push in the right direction and to say yes you are management material.... some elements of the course have been particularly good. (accounts manager - energy supply)

Formal education may have contributed to prior learning and confidence in their experience, by providing knowledge, opportunities to practice skills in safe settings, validation and confirmation of that learnt through experience, and exposure to others having similar experiences and challangels.Feedback and supportive challenge from both tutors and fellow students offer encouragement.

As confidence developed our respondents reported changes in their abilities and behaviour.

> I am a bit more assertive, I had done a lot of acute medicine which gave me confidence I can handle it a lot better. If I don't know I just ask. I'm a lot more ready to clarify things and I don't feel daft doing it. I don't think I ought to know. I haven't worked here before so I don't know. I am more ready to accept you can't know everything. (nurse)

They reported an improved ability to deal with uncertainty, remaining calm in a crisis, and seeking help .

> I like to know how something works that you have got to use. When something comes up that doesn't work, then it's back to basics and apply basic principles and hopefully you can come up with something even if you've never done it before. (radiographer)

They reported seeking out new challenges and taking risks with a sense of enjoyment. They actively sought support for themselves and were orientated towards enabling others.

The outcomes of developing confidence were reported as:

- a recognition of their own development through learning and an enhanced ability to evaluate more accurately their own performance, including a recognition and acceptance of their limitations
- a determination towards better outcomes for clients (improved quality) and working groups
- a sense of pride in a job well done (increasing professionalism)
- being able to persist in adversity and being able to cope better with change.
- an orientation to career progression

It can be seen from the above that emerging confidence results in behaviours and attitudes that support learning, both for the individuals in seeking new challenges and support, and for others by the contribution made to the enhancement of the workplace culture. Individual characteristics, personality, competence and motivation all contribute to the learning and interact with the prevailing culture.

More recent work on self efficacy (Bandura 1995) argues that psychological wellbeing is important and the affective dimension is recognised. Arguing that it is not the presence or absence of emotion but that how it is perceived and interpreted that contributes to self-efficacy beliefs which, in turn, influences how people think, feel and motivate themselves and act. This work also addresses both the role of others and the impact of the environment in the development of beliefs in personal efficacy and we would argue in learning.

Our evidence would also support Bandura's' assertions that not only do personal and environmental sources of influence function as interdependent but that they are not governed by immediate conditions only but by recognition of their consequences over time. Both personal support systems and the impact of workplace culture appear to exert their influence over time.

A major determinant of the goals an individual will set and their motivation to achieve them is self efficacy Bandura argues. More ambitious goal setting and risk taking, leading to further learning are outcomes of developing confidence. Nevertheless, the characteristics of the individual, their response to challenge and their interrelationship with their workplace culture require further understanding. Why some seek challenge, and others endeavour to avoid it is not addressed by this paper but needs future research.

5. Conclusion

In conclusion, our findings demonstrate that significant learning occurs from the everyday experience of doing the work. Learning from other people is preferred including learning from self. Learning at work is not a purely technical rational process but has personal and emotional components, influenced by the working environment. The most important factors in facilitating learning in the workplace are the challenges of the work, when appropriately paced and supported, and the micro climate of the immediate workplace. The immediate manager strongly influences both, together with the organisational culture.

Organisations wanting to enhance the quantity and quality of their workplace learning need to consider both the organisation of the work environment and the development of managers for their role as facilitators of learning.

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